

CAN STATE BANK EXAMINATION DATA REPLACE
FDIC EXAMINATION VISITS?*

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Abstract

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In order to compare asset classification data generated by FDIC and state examiners, safety and soundness examination data were compared for 96 California insured nonmember banks that had been examined independently by the state and FDIC within seven months of one another. Two major conclusions emerge. First, regression analysis indicated that examination conclusions can be replicated accurately across individuals and agencies. (This does not imply that examiners generate new or economically valuable information, though replicability is a necessary condition for that conclusion.) Second, it is shown how FDIC might utilize state examination reports to determine which bank's safety and soundness examinations can be waived without compromising its supervisory responsibilities. Significant supervisory resources could be saved or re-allocated if FDIC were to accept selected state examination reports in lieu of its own.

CAN STATE BANK EXAMINATION DATA REPLACE
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Each bank regulator in the United States operates under a statutory mandate to insure the "safety and soundness" of banks under his/her control. Toward this end most state legislatures require the banking supervisor to examine banks at specified intervals. FDIC examinations are not required by law, but administrative procedures require that insured nonmember banks be examined at least every eighteen months, more frequently in many instances. This dual supervision of insured nonmember banks imposes costs on the banks themselves and the public purse. Joint or concurrent exams reduce the resource cost of dual supervision, but these practices are not particularly widespread,¹ nor are the associated cost savings always large.² FDIC has long accepted the Comptroller's and the Federal Reserve Board's examination reports as its own. Beginning in 1977 and 1978 FDIC agreed with three states -- Georgia, Missouri, and New Jersey -- to divide examination duties, alternating (annual) examinations for nonproblem banks with assets less than 100 million dollars. This Divided Examination Program remains experimental and is extremely limited.

On-site bank examinations constitute the only feasible means of providing regulators with information on bank asset quality and compliance with relevant laws and regulations.³ At FDIC the former motive has received primary emphasis:

One of the most important aspects of the examination process is the evaluation of loans, for, in large measure, it is the quality of a bank's loans which determines the risk to depositors. To a great extent, conclusions regarding the condition of the bank, the quality of its management, and

its service to the community are weighted heavily by the examination's findings with regard to loans.

([8], p. 185, Manual of Examination Policy, Section H, page 1).

Any program to eliminate dual bank examinations must consequently demonstrate that state and FDIC examiners evaluate loan and security portfolios comparably.⁴

This paper employs examination data on 96 California insured non-member banks to assess the possibility that FDIC could selectively substitute state exam reports for its own without adversely affecting its supervisory responsibilities. In particular, information generated by a state examination is combined with publicly available bank accounting data to predict how FDIC examiners would evaluate the same bank. If the state examination data allows sufficiently accurate prediction of FDIC assessments, FDIC could limit its own exams to banks that appear likely to be troubled.

The paper proceeds in four sections. Section I describes the role of bank examinations in FDIC's supervisory process, concluding that the state's ability to replicate the "net capital ratio" calculated by FDIC constitutes a reasonable test of examiner comparability. The bank examination data is described and empirical results presented in Section II. Section III simulates several decision rules which might be employed to waive an FDIC examination on the basis of state exam results. The paper concludes with a summary and some thoughts on the practicalities of implementing this type of supervisory reform.

I. FDIC's Use of Bank Examination Data

As a central part of its supervisory procedures, FDIC maintains a list of "Problem" banks which are perceived as unusually weak. These banks are subjected to extraordinary supervision intended to reduce the probability of bank failure and/or FDIC payout.⁵ In assembling this list -- and, therefore, in allocating supervisory resources within the agency -- the bank's capital position is viewed as a key determinant of its overall strength:

Some qualifications are necessary, but in general the degree of protection afforded depositors is closely related to the strength of a bank's capital position. For this reason many important phases of the bank examination procedure have as their purpose the determination and analysis of a bank's capital.

([8], p. 23, from the Manual of Examination Policies, Section D, page 1).

In adjusting reported bank capital for likely losses (or "nonsound banking values") examination plays the central role. Sinkey [7] demonstrates that a primary determinant of inclusion in the FDIC Problem Bank List is a low net capital ratio (NCR) defined as bank capital less all assets classified unsound, divided by "adjusted" total assets.⁶ More precisely, Sinkey concludes:

The banking agencies recognize (in words at least) that identification of banks experiencing financial difficulty is a multidimensional problem. However, in practice, bank capital and examiners' "substandard" loan classifications (as manifested in the FDIC's NCR) are the important variables.

([7], p. 191).

This paper therefore uses NCR as the measure of overall bank condition relevant to FDIC.

The capital and asset data required to calculate a bank's NCR are readily available to FDIC from quarterly Reports of Condition. Evaluation of a bank's asset quality, however, occupies approximately two-thirds of examiners' time spent in the bank. Duplicate bank examinations can be eliminated only if state and FDIC examiners routinely produce similar asset quality evaluations. State and federal loan classification data should correspond reasonably well if both groups of examiners are (equally) competent and if the asset classification procedure derives from fundamentally sound premises. Moreover, many states train their personnel with the help of FDIC Bank Examination Schools, which would tend to result in similar examination results. For the sample period of data reported below, however, California did not employ FDIC training facilities, so similar examiner assessments would strongly support the notion that bank examination data are replicable among different agencies.

On the other hand, two agencies' asset classification data might differ for several reasons.

1. The agencies could define "classified" (or "substandard", "loss", etc.) assets differently.⁷
2. The agencies (or individual examiners) might differ in their procedures for selecting loans and securities to be examined. Suppose, for example, the state examines only loans larger than 5% of bank capital and FDIC examines those above 1%. Since neither agency extrapolates to the unexamined portion of the portfolio in reporting "total classified assets", FDIC would routinely tend to classify a larger proportion of the total loan portfolio.

3. If the classification process is not easily specified, individual examiners could assess the same assets differently. This phenomenon could occur between agencies, or simply between individual examiners regardless of affiliation.

Inter-agency differences such as points 1 and 2 above need not be destructive: if they remain consistent over time, one agency's examination findings can be used to substitute for the other's. Such biases would be troublesome only if they changed over time or if the banks' portfolios changed in such a way as to make the NCR calculated from FDIC and state classification procedures diverge. In the event of large inter-examiner differences (point 3), the correspondence between state and FDIC exam data would be slight. In this instance, however, two FDIC examiners might also classify the same portfolio differently, and the examination process itself would be a questionable exercise.⁸

II. Empirical Results

In order to compare examiner evaluations, data were obtained for pairs of FDIC and state examinations performed on the same bank within a relatively short period of time. Presuming (as we must) the bank's underlying condition did not change materially between the two exams, the data allow two alternative methods of comparison. First, FDIC loan classifications could be predicted directly from the state's, then combined with the accounting data on current assets and book capital to estimate what the FDIC net capital ratio would have been on the same date. Data limitations make this approach undesirable.⁹ The paper's primary empirical approach therefore estimates the FDIC's net capital ratio assessment directly from a NCR derived from state exami-

nation data. Bank accounting data from Call Reports are also included as explanatory variables to control for changes in bank size and book capital between the two examination dates. (See Tables 2 and 3.) While this approach slightly obscures the relation between state and federal asset classifications, it offers the advantage of comparing two properly constructed variables.

California is a logical state from which to obtain these data for two reasons. First, the California Banking Department performs independent exams on insured nonmember banks. Unlike concurrent state examinations, therefore, the loan classifications are necessarily generated independent of FDIC personnel. Second, the bank population is large enough to provide a sufficient number of paired examinations within a relatively short time.

The data consist of 137 examination pairs performed between June 1, 1976 and June 1, 1978, involving 96 California banks for which the state and FDIC examined the same bank within seven months of one another. For each examination pair the following data were obtained:

NCRF(NCRS): Net capital ratio calculated from the FDIC
(state) examination report

AF(AS): Total assets at the FDIC (state) examination

CF(CS): Total loans classified by the FDIC (state)
examiner (in dollars)

DAF(DAS): Date of the FDIC (state) examination.

Table 1 contains summary statistics for the examination pairs in the sample.

Several characteristics of the data limit the generality of conclusions that can be drawn from the analysis. First, California is regarded as an unusually strong state banking regulator. Positive

TABLE 1
California Paired Examination Data

	Mean	Highest Value	Lowest Value
Bank Total Assets (million dollars)	55.9	542.5	2.6
Book Capital (million dollars)	4.49	36.7	.401
Ratio of Classified Loans to all Assets	1.67%	11.9%	0.0%
NCRF	8.79%	42.1%	0.0%
Number of Days Between Examinations	137	227	16

results regarding the FDIC's use of California examination data cannot necessarily be applied to other states. A highly negative conclusion for California, however, would suggest that further investigations are likely to be fruitless. Second, the fact that federal and state exams occurred at different points in time creates three possible distortions beyond federal/state procedural differences in comparing NCRF and NCRS:

1. NCRF and NCRS would differ even with perfectly comparable FDIC and state procedures if a bank's asset quality changed between the two examination dates.
2. Similarly, NCRF would differ from NCRS if total assets changed disproportionately relative to book capital (or vice versa) between the two exams. A new stock issue, for example, would raise the second NCR; asset growth in excess of the (proportional) addition to book capital through retained earnings would depress the second NCR.
3. Examiners might be influenced by the preceding exam report filed by the other agency, in which case state and FDIC examination results would not be completely independent.

These possibilities are incorporated into the regression form specified below.

Predicting FDIC Examination Results

As noted immediately above, inconsistencies between NCRS and NCRF may result from three factors (aside from a change in the bank's condition): differing asset classifications, differing book capital values, or differing total assets. The latter two represent no operational problem, but must be recognized in the regression predicting

NCRF from NCRS. For this purpose, two additional variables were constructed for each examination pair:

ΔA = percentage change in total assets between the two examinations

ΔK = percentage change in book capital between the two examinations.

Even if federal and state loan classifications were identical, a large increase in assets relative to capital would tend to depress the second examiner's net capital ratio relative to the first (and vice versa). In a regression predicting NCRF, therefore, ΔA and ΔK would carry different signs according to whether the state or FDIC examination occurred first. The asset and capital change variables were disaggregated into four separate variables:

0 for exam pairs in which the FDIC (state) examination occurred first

$SF\Delta A(FS\Delta A) =$

ΔA for examination pairs in which the state (FDIC) examination occurred first.

$SF\Delta K$ and $FS\Delta K$ were constructed similarly. In predicting NCRF, the coefficients on $SF\Delta A$ and $FS\Delta K$ should be negative and those on $FS\Delta A$ and $SF\Delta K$ positive.

If California tended to replicate NCRF closely only when the federal exam preceded, FDIC could not rely on independent state examinations in lieu of its own. On the other hand, if FDIC is significantly influenced by prior state examination reports the usefulness of routine federal exams is questionable. The possibility that examiners were influenced by the preceding examination report is tested by defining additional explanatory variables:

1 when the FDIC exam preceded the state's

BIAS =

0 when the state exam preceded FDIC's

NCRS when the FDIC exam preceded the state's

FSNCRS =

0 when the state exam preceded FDIC's

If the examination order within each pair affects the statistical relation between NCRF and NCRS, either FSNCRS or BIAS (or both) will carry a nonzero coefficient.

The basic empirical result is regression (A) in Table 2. The specification shown there (and in Table 3) is heteroskedastic, with the error term apparently positively related to NCR. (The Goldfeld Quandt test statistic is $F_{57,57} = 2.59$.) To obtain minimum-variance estimators the data were transformed by dividing through by NCRS prior to estimation. (The transformed specification has an insignificant Goldfeld Quandt statistic: $F_{57,57} = .021$.) Subsequent manipulations restored the data to the form shown in Tables 2 and 3, including a correctly calculated regression standard error and \bar{R}^2 . The explanatory power of the regression ($\bar{R}^2 = .924$) is rather impressive for cross section data. All coefficients carry an appropriate sign or are insignificant. In particular, the insignificant coefficients on BIAS and FSNCRS indicate that state and FDIC examination assessments are independent (or, at least, the bias occurs equally in both directions).

To determine if a bank's capitalization differentially affects the agencies' assessments, the sample banks were sorted on NCRS.

TABLE 2

Dependent Variable: NCRF

	(A)	(B)	(C)
Constant	2.33 (46.59)	2.32 (33.69)	2.23 (3.54)
BIAS	.486 (1.20)	.381 (.658)	-5.05 (4.69)
NCRS	.790 (14.00)	.821 (7.69)	.784 (13.58)
FSNCRS	-.143 (1.16)	-.363 (1.49)	.5620 (4.86)
SFPDA	-4.97 (3.75)	-4.44 (2.26)	-9.03 (7.76)
SFPDK	-.05 (.0697)	-.335 (.322)	7.98 (4.21)
FSPDA	8.84 (2.73)	6.65 (1.14)	12.29 (8.92)
FSPDK	-3.99 (3.13)	-3.31 (1.81)	-15.88 (6.81)
S.E.	2.96	1.56	1.98
\bar{R}^2	.924	.912	.979
Mean Value of NCRF	8.84	5.08	12.54
Number of Observations	137	68	69

Regressions (B) and (C) were then estimated for banks with NCRS below vs. above the sample median (6.3%). All coefficients remain appropriately signed (or insignificant) and the explanatory power of these regressions is again high. Despite several differences between the two sub-samples in explanatory variables' significance, an F-test does not reject the hypothesis of overall homogeneity ($F_{8,121} = 1.74$). The statistical significance of BIAS and FSNCRS in (C) supports the hypothesis that some examiner bias exists for highly capitalized banks, but an alternative interpretation seems more plausible. Banks with relatively high NCR are more likely to be new banks whose overall size or condition can change significantly between examination dates. (The significant coefficients on ΔA and ΔK in (C) reinforce this impression.) As a new bank grows, its capitalization ratio naturally falls, so the second examination in each pair would tend to show a lower NCR even if the agencies' procedures were entirely comparable. The large positive coefficient on FSNCRS in regression (C) indicates that NCRF routinely exceeds NCRS when the FDIC exam occurred first. The "bias" in regression (C) therefore seems readily attributable to examination timing or changes in some other bank characteristic rather than true examiner bias, though the limited number of data items available made it impossible to determine precisely which bank characteristics are responsible.

Further support for the hypothesis that loan evaluations are not biased is provided by regressing CF directly on CS:

$$\frac{CF}{AF} = 0.865 + .744 \text{ SFCSAS} + .778 \text{ FSCSAS}$$

	(.599)	(8.43)	(15.70)
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$$R^2 = .654 \qquad \text{Number of observations} = 137$$

0 for exam pairs with FDIC (state)
preceding the state (FDIC)

where: SFCSAS (FSCSAS) =

$\frac{CS}{AS}$ for exam pairs with the state
AS (FDIC) preceding the FDIC (state).

The coefficients on SFCSAS and FSCSAS indicate that California examiners classify a larger proportion of bank assets than FDIC examiners, but the proportion is independent of which agency examined the bank first. (This relation is homogeneous when the sample is divided according to asset size, capitalization ratio, or the number of days between examinations.)

The regressions in Table 2 included examination pairs in which FDIC preceded the state. The comparability of state and FDIC exam assessments can be tested more stringently by predicting NCRF from prior state exam NCRs. Regression (D) in Table 3 includes all examination pairs in which the state preceded FDIC; (E) and (F) were run for sub-samples of these banks with NCRS below versus above the sample median (which is 6.2% for the exam pairs in which the state preceded). The hypothesis of overall homogeneity in the coefficients is easily accepted ($F_{4,87} = 0.522$). The significance of $S\bar{E}A$ and $S\bar{E}K$ (especially for highly capitalized (newer) banks) again reinforces the inference that such a bank's true NCRF is more likely to change between examination dates.

III. Simulating FDIC Examination Waivers on the Basis of California Examination Information

The regressions reported here demonstrate a close relationship between federal and California examination assessments. This relationship can be used as a substitute for FDIC¹⁰ examination visits if

TABLE 3

Dependent Variable: NCRF

	(D)	(E)	(F)
Constant	2.33 (41.79)	2.32 (29.0)	1.72 (2.89)
NCRS	.790 (12.56)	.838 (6.48)	.816 (14.1)
SFPDA	-4.97 (3.36)	-4.31 (1.88)	-8.88 (7.34)
SFPDK	-.0502 (.0625)	-.409 (.336)	8.48 (4.43)
SE	2.15	1.77	2.03
\bar{R}^2	.951	.899	.973
Mean Value of NCRF	8.25	5.25	11.19
Number of Observations	95	47	48

the regressions in Tables 2 and 3 allow accurate predictions of the NCR that would result from an FDIC examination. As FDIC undertakes fewer independent examinations supervisory resources are saved, but the offsetting risk is that some potential problem institutions may be identified only later. In evaluating examination waiver rules FDIC must accordingly balance examination costs against the perceived costs of temporarily overlooking a relatively weak bank.

While it is not an objective of this study to derive an optimal procedure for substituting state examinations for FDIC's, sample decision rules are presented in Tables 4, 5, and 6. Two alternative methodologies are discussed, each based on the principle that the Corporation would skip its next examination visit for banks that appear "sound" according to the NCRF predicted from recent state examination and Call Report information.

A Simple Threshold Rule

Table 4 contains the results of applying a rule that waives the FDIC exam for sample banks with predicted NCRF above X%.¹¹ (A modified compliance exam might be substituted in some or all cases for a full safety and soundness examination.) Banks with predicted NCRF below X% would be examined by FDIC according to historical procedures. The best predictions of FDIC's NCR emerge from the combination of regressions (B) and (C); Table 4 shows the number of FDIC examinations that would have been waived for each of four different threshold values of predicted NCRF. It also shows the number of waived banks whose true NCRF would have fallen below the selected threshold value. Using the right-most column in Table 4 as an example, if all banks with predicted NCRF above 7% had their FDIC exams waived, 64 of the

TABLE 4

Simulated Examination Program Using
Regressions (B) and (C) to Estimate NCRF

X-value

	4%	5%	6%	7%				
Number of FDIC Exams Waived (out of 137)	122	109	93	64				
Number of Waived Banks with the True NCRF Below:								
4% (Total: 17 banks)	6	3	1	1				
5% (Total: 30 banks)		6	1	1				
6% (Total: 52 banks)			15	2				
7% (Total: 73 banks)				7				
True NCRF for Omitted Banks with NCRF < X%	0.7 3.1 3.6	2.9 3.1 3.9	0.7 3.1 4.5	2.9 4.1 4.7	2.9 5.0 5.2 5.4 5.5 5.7 5.7 5.8	5.0 5.0 5.2 5.4 5.6 5.7 5.8	2.9 6.6 6.7 6.9	5.7 6.6 6.9

137 federal exams would not have occurred. Among the 64 waived exams seven banks actually had NCRF below 7%, with two below 6% and one below 5%. At the other extreme in Table 4, with X=4%, FDIC would have waived 122 of 137 exams, but six banks with "true" NCRF below 4% would have been missed.

The results presented here suggest that in California X=6% or X=7% would allow a sizeable saving in examination costs while catching (nearly) all the weak banks. The only worrisome sample bank that would be exempted by X=6% or 7% (NCRF=2.9%) exhibited such an unusual asset growth pattern that Federal examiners would surely have visited it regardless of the prior state examination results. A more sophisticated decision rule could include recent trends in the bank's loan portfolio, total assets, earnings, etc. (as reported on the Call Reports), prior FDIC examination information, and so forth. While these extensions would undoubtedly improve the procedure's accuracy, even the extremely naive approach of Table 4 suggests that a number of FDIC exams could be waived safely on the basis of state examination reports alone.

To avoid the possibility that the strong results in Table 4 are due to examiner bias (i.e., NCRS corresponds closely to NCRF largely because state examiners were influenced by prior FDIC conclusions), Table 5 presents results based on regressions (E) and (F), which use only examination pairs whose state exam preceded FDIC's. The results are quite similar and, again, X=6% or X=7% seems a sufficiently conservative rule to insure that effectively all weak banks are examined by FDIC personnel.

TABLE 5

Simulated Examination Program Using
Regressions (E) and (F) to Estimate NCRF

X-value	4%	5%	6%	7%			
Number of FDIC Exams Waived (out of 95)	84	74	67	42			
Number of Waived Banks with the True NCRF Below:							
4% (Total: 11 banks)	5	2	1	1			
5% (Total: 20 banks)		4	1	1			
6% (Total: 37 banks)			14	2			
7% (Total: 51 banks)				5			
True NCRF for Omitted Banks with NCRF < X%	0.7 2.9 3.6	0.7 3.1 3.9	2.9 3.6	2.9 5.0 5.2 5.4 5.5 5.7 5.8	5.0 5.0 5.2 5.4 5.6 5.7 5.8	2.9 6.6 6.9	5.7 6.7

A Rule Based on Regression Standard Errors

The rules illustrated in Tables 4 and 5 are arbitrary in the sense that the results for this particular sample may not generalize with any degree of confidence. A more precise approach can be based on the regression standard errors reported in Tables 2 and 3. With approximately 40 degrees of freedom (e.g., regression (E) or (F)) only 2.5% of banks in any sample will have true NCRF lower than two standard deviations below the estimated value; only 5% will have their true NCRF overestimated by more than 1.67 standard errors. Regressions (E) and (F) were used to construct Table 6, which assumes the FDIC policymaker is willing to take at most a 5% chance that a waived bank will have a true NCRF below some cutoff value.¹²

For banks with $NCRS \leq 6.2\%$ regression (E) generates NCRF estimates with a standard error of 1.77%. The probability that the true NCRF lies more than 2.95% below its estimated value is therefore 5% (1.67 times the standard error of the estimate). The policymaker would waive exams for any bank with $NCRS \leq 6.2\%$ whose estimated NCRF exceeds the minimum acceptable NCRF by at least 2.95%. A similar procedure applies for banks with $NCRS \geq 6.2\%$, substituting regression (F) and its standard error for (E).

The results of this experiment are extremely encouraging. Only one of the sample banks is misclassified for any minimum acceptable NCRF, and (as noted in the text) this bank is likely to have been flagged for examination on the basis of its extremely rapid asset changes. Table 6 also reinforces the conclusion emerging from Tables 4 and 5 that an estimated NCRF above 6% or 7% should be sufficient to waive a California nonmember bank's FDIC examination visit.

TABLE 6

Minimum Acceptable True NCRF	Number of Examinations Waived (out of 95)	Number of Banks in Sample With True NCRF Below Cutoff
2%	71	0 (Total: 4 banks)
3%	65	1 (Total: 7 banks)
4%	41	1 (Total: 11 banks)
5%	32	0 (Total: 20 banks)

IV. Implementing an Examination Waiver Policy

Empirical results presented here document the close correlation between FDIC and California examination results. Whether or not bank examinations produce economically useful information, at least the process of assessing bank asset quality is replicable across agencies and individual examiners.

The unidimensional decision rules employed in Tables 4 through 6 demonstrate the practicality of substituting California exam data for FDIC's own on-site visits. Even greater accuracy should be readily attained if additional information already available to regulators were incorporated into the procedure. FDIC has already demonstrated an administrative willingness to accept other supervisors' exam reports in lieu of its own and the evidence presented here suggests the practice should be extended. Yet a number of practical problems remain.

First, the above empirical analysis must be replicated for each state with a history of independent examinations to determine if a suitably close relation exists between state and federal practices. (The definition of "suitably close" is, of course, an important policy issue.) States conducting concurrent exams could also be considered in the same fashion if their asset quality assessments are reasonably independent. In the case of joint examinations, FDIC would have to judge state examiner quality from their training and experience, a considerably more difficult type of assessment.

FDIC need not abandon routine examinations completely in states whose reports it has chosen to accept. Depending on the confidence

amination visits with the state (as it has in the three experimental state programs), or continue to "spot check" state results through random federal examinations. In this way FDIC would assure that the relationship between state and federal examination procedures had not changed over time.

Finally, the distribution of cost savings among the regulators must be considered. It seems likely that FDIC would underwrite at least part of the cost of state examinations accepted in lieu of its own, either directly or by training and providing other support services to state supervisors.

FOOTNOTES

1. In 1974, state banking departments performed 9950 examinations, of which 6711 were independent of either FDIC or the Federal Reserve. Of the remaining exams, less than 11% (1089) were joint with a Federal agency; only 2150 were concurrent [10].
2. Randall Miller of FDIC estimates concurrent examinations reduce (state plus FDIC) examiner manhour requirements approximately 8% relative to independent examinations, while joint examinations save about 32% of total manhours. A divided examination program similar to the one in effect in Georgia, Missouri and New Jersey would allow additional economies (estimated by Miller at 23% over a joint examination program), but would still fall short of what is suggested here. See [5, 6].
3. Since FDIC deposit insurance is provided at a fixed fee, private returns to risk bearing exceed social returns and the regulators must take steps to limit the risks to which individual bankers expose the insurance fund. Enforcement requires on-site examination of the asset portfolio.
4. In the process of addressing this issue a far more fundamental question is considered indirectly: do examiner classifications have any factual basis, or are the resultant data random noise? See ([2], [8]). This, in turn, differs from another question addressed in the literature ([3], [4]): do examiners produce any information not already known to bank management?
5. At yearend 1977, for example, the Problem Bank List included 286 banks (out of a total insured bank population of 14,412) in three categories:
 - 256 were considered "other problem" (the least serious category)
 - 100 were considered "serious problem"
 - 12 were considered "serious problem -- potential payoff".See Sinkey [7] for descriptions of each category.
6. Loans and other assets are categorized as sound, or (in decreasing order of soundness) "substandard", "doubtful", or "loss". (See [7] for details.) "Adjusted" total assets includes all book assets, less all "loss" assets and half of those classed "doubtful".
7. In principle this should not occur since the federal banking agencies signed a Uniform Agreement in 1938 (revised in 1949 and 1979), with the institutional predecessor of the Conference of State Bank Supervisors (CSBS) in which asset categories were uniformly defined. Whether the Agreement controls in practice is a different issue.

8. See, for example, [1] or [2].
9. NCR nets out all classified assets, while the only classification data available for this study pertained to the loan portfolio. Most banks' classified assets are predominately loans, but there are exceptions for which the available data are inadequate. Further, cross section estimation of CF from CS requires a scale variable and the most reasonable one available -- total bank assets -- is less than ideal.
10. For expositional simplicity, the decision rules reflect only FDIC's perspective: when could FDIC waive an examination visit in California on the basis of the state's reported NCR? Alternatively, the state may decide to accept FDIC assessments in lieu of its own.
11. It would have been preferable to hold some examination pairs out of the estimation process for subsequent testing of the decision rule. Any feasible holdout sample would have been too small, however, especially in view of the cost regulators assigned to missing a troubled bank.
12. More or less risky criteria could, of course, be readily applied. The optimal degree of risk is a key policy decision.

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